CLAIMS

1.   A method for charging a battery, comprising the steps of:

determining a charge termination point for the battery, wherein the charge termination point produces a charge on the battery that is less than an initial maximum charging capacity of the battery; and

charging the battery using the charge termination point for at least a portion of the charge cycles of the battery to reduce at least in part the variation of battery capacity over the cycle life of the battery.

2.   The method according to claim 1, wherein the step of determining a charge termination point for the battery comprises the steps of:

determining a number of charge cycles, an initial maximum capacity of the battery and a target capacity of the battery;

determining a charge factor based on the number of charge cycles; and

calculating a charge termination factor based on the charge factor, the initial maximum capacity of the battery and the target capacity of the battery, wherein the charge termination point is based on the charge termination factor.

3.   The method according to claim 1, wherein the charge termination point is selected from at least one of a termination charge voltage and a charge current termination point.

4.   The method according to claim 2, further comprising the step of accessing the number of charge cycles, the initial maximum capacity of the battery and the target capacity of the battery from a memory of the battery.

5   5.   The method according to claim 4, wherein the memory is an electrically erasable programmable read only memory.

6.   The method according to claim 2, wherein the target capacity of the battery is selected based on at least one of a predetermined percentage

10   of transmission time, a predetermined percentage of receive time and a predetermined percentage of standby time, each of which is associated with a mobile communications device.

7.   The method according to claim 2, further comprising the step of

15   incrementing the number of charge cycles each time the battery is charged to its charge termination factor.

8.   A method of charging a battery, comprising the steps of:

determining a number of charge cycles, an initial maximum capacity of the battery and a target capacity of the battery;

determining a charge factor based on the number of charge
5   cycles;

calculating a charge termination factor based on the charge factor, the initial maximum capacity of the battery and the target capacity of the battery;

determining a charge termination point based on the charge
10   termination factor; and

charging the battery using the charge termination point.

9.   A system for charging a battery, comprising:

a battery; and

a charging unit having a processor, wherein the processor is programmed to determine a charge termination point for the battery, wherein

5   the charge termination point produces a charge on the battery that is less than an initial maximum charging capacity of the battery;

wherein the charging unit charges the battery using the charge termination point for at least a portion of the charge cycles of the battery to reduce at least in part the variation of battery capacity over the cycle life of

10   the battery.

10.   The system according to claim 9, wherein the processor is programmed to determine the charge termination point for the battery by:

determining a number of charge cycles, an initial maximum

15   capacity of the battery and a target capacity of the battery;

determining a charge factor based on the number of charge cycles; and

calculating a charge termination factor based on the charge factor, the initial maximum capacity of the battery and the target capacity of

20   the battery, wherein the charge termination point is based on the charge termination factor.

11.   The system according to claim 9, wherein the processor is further programmed to select the charge termination point from at least one of a termination charge voltage and a charge current termination point.

5   12.   The system according to claim 10, wherein the battery comprises a memory and wherein the processor is further programmed to access the number of charge cycles, the initial maximum capacity of the battery and the target capacity of the battery from the memory of the battery.

10   13.   The system according to claim 12, wherein the memory is an electrically erasable programmable read only memory.

14.   The system according to claim 10, wherein the target capacity of the battery is selected based on at least one of a predetermined percentage

15   of transmission time, a predetermined percentage of receive time and a predetermined percentage of standby time, each of which is associated with a mobile communications device.

15.   The system according to claim 10, wherein the processor is

20   further programmed to increment the number of charge cycles each time the battery is charged to its charge termination factor.

16. A battery for supplying power to an electronic device, comprising:

at least one cell for receiving power from a charging unit; and

a memory, wherein when the battery is coupled to the charging

5 unit, a processor of the charging unit is programmed to determine a charge termination point for the battery, wherein the charge termination point produces a charge on the battery that is less than an initial maximum charging capacity of the battery and wherein the charging unit charges the battery using the charge termination point for at least a portion of the charge

10 cycles of the battery to reduce at least in part the variation of battery capacity over the cycle life of the battery.

17. The battery according to claim 17, wherein the memory is an electrically programmable read only memory that stores a number of charge

15 cycles, an initial maximum capacity and a target capacity of the battery and wherein the processor accesses the number of charge cycles, the initial maximum capacity and the target capacity of the battery to determine the charge termination point.

18.   A charging unit for charging a battery, comprising:

a charge control circuit for controlling charging current to the battery; and

a processor, wherein the processor is programmed to determine

5   a charge termination point for the battery, wherein the charge termination point produces a charge on the battery that is less than an initial maximum charging capacity of the battery;

wherein the charging unit charges the battery using the charge termination point for at least a portion of the charge cycles of the battery to

10   reduce at least in part the variation of battery capacity over the cycle life of the battery.

19.   The charging unit according to claim 18, wherein the processor is programmed to determine the charge termination point for the battery by:

15   determining a number of charge cycles, an initial maximum capacity of the battery and a target capacity of the battery;

determining a charge factor based on the number of charge cycles; and

calculating a charge termination factor based on the charge

20   factor, the initial maximum capacity of the battery and the target capacity of the battery, wherein the charge termination point is based on the charge termination factor.